



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,309	05/25/2001	Shigeyuki Uzawa	862.C2239	2803
5514	7590	09/30/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			JARRETT, RYAN A	
		ART UNIT	PAPER NUMBER	
		2125		
DATE MAILED: 09/30/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/864,309	UZAWA ET AL.	
	Examiner	Art Unit	
	Ryan A. Jarrett	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 29 July 2005.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 48-58 and 60-62 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 48-58 and 60-62 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed in the Response filed 7/29/05 and in the Interview Request Form attached to this Office Action have been fully considered but are not persuasive.

In the Interview Summary attached to this Office Action, it is stated that an agreement was reached that Hasegawa et al. US 5,746,562 does not purge the process chamber since purging would require some sort of an exhaust vent in the process chamber to expel the "impure" or undesired atmosphere. At the time of the interview, the reference was scanned at it was not believed that Hasegawa disclosed an exhaust vent in the process chamber. In retrospect, after fully reviewing the reference, Hasegawa et al. does disclose a valve for discharging the process chamber (e.g., col. 1 lines 24-33). Additionally, Hasegawa et al. discloses that the process chamber is evacuated in order to reduce the inside pressure (e.g., col. 1 lines 60-67), in other words to create a reduced pressure helium ambience inside the chamber (e.g., col. 1 lines 20-23, col. 7 lines 21-22). This reduced pressure helium atmosphere is achieved through use of a gas supply mechanism for supplying an inert gas (helium) to the process chamber (e.g., col. 5 lines 52-61), and through use of the aforementioned valve discharge/evacuation means. Thus, Examiner submits that this teaching of Hasegawa et al. corresponds to the claimed limitation "the atmosphere in said chamber being purged with an inert gas". To "purge" means to "cause evacuation from". By supplying

Art Unit: 2125

helium to the process chamber and maintaining this helium ambience, the previous atmosphere (presumably air) is “evacuated” from the process chamber through the valve discharge means in order to make “room” for the new helium atmosphere. If the process chamber is maintained at a reduced pressure helium ambience, as disclosed by Hasegawa et al., then there is necessarily some level of “purging” of the previous atmosphere.

Furthermore, Apparatus claims must be structurally distinguishable from the prior art. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). See MPEP 2114. The limitation “the atmosphere in said chamber being purged with an inert gas” in claim 48 is a functional limitation and it is not entirely clear how this functionality is manifested into an actual structure of the exposure apparatus. No gas supply means is claimed for supplying an inert gas to the process chamber.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 48-54 and 60-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Hasegawa et al. U.S. Patent No. 5,746,562. Hasegawa et al. discloses an exposure apparatus for exposing a wafer to a pattern, said apparatus comprising: a chamber (e.g., Fig. 3 #101) in which an atmosphere is conditioned to be different from an atmosphere in another apparatus (e.g., Fig. 3 #131) outside of said exposure apparatus and the wafer is exposed to the pattern, the atmosphere in said chamber being purged with an inert gas (*This is a functional limitation and has no patentable weight. However, assuming the claim is amended to incorporate this functionality into some kind of physical apparatus structure, the feature is taught in the following passages per the arguments above*, e.g., col. 1 lines 20-33, col. 1 lines 60-67, col. 5 lines 52-65, col. 7 lines 21-22); and a port section (e.g., Fig. 3 #102a) through which the wafer is transferred between said chamber and the other apparatus, said port section having a load-lock mechanism (e.g., Fig. 3 #109a, #122a) including a vacuum mechanism for creating a vacuum below atmospheric pressure inside of said port section and a supply mechanism for supplying the inert gas into the inside of said port section (e.g., col. 5 lines 52-61);

wherein said exposure apparatus includes a plurality of said port sections (e.g., Fig. 3 #102a, #102b); wherein said port sections include a first port section for loading the wafer (e.g., Fig. 3 #102a) and a second port section for unloading the wafer (e.g., Fig. 3 #102b); further comprising an interface section (e.g., Fig. 3 #121) for stocking a wafer between said port section and the other apparatus; wherein said interface section includes a load-lock mechanism (e.g., Fig. 3 #122a, #122b); wherein said interface

section is shared by a plurality of said port sections (e.g., Fig. 3 #121, #102a, #102b); wherein the other apparatus includes a coating/developing system (e.g., Fig. 3 #131, #132);

a device manufacturing system comprising: an exposure apparatus defined in claim 48 (e.g., Fig. 3 #101); and another apparatus which performs for a wafer at least one of a pre-process (e.g., Fig. 3 #131) and a post-process (e.g., Fig. 3 #132) with respect to an exposure process to be performed by said exposure apparatus; a device manufacturing method comprising a step of exposing a wafer to a pattern using an exposure apparatus defined in claim 48; and developing the exposed wafer (e.g., col. 5 line 66 – col. 7 line 5); a device manufacturing method comprising a step of processing a wafer using a device manufacturing system as defined in claim 60 (e.g., col. 5 line 62 – col. 6 line 64).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 55-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. as applied to claim 48 above, and further in view of Ueda et al. U.S. Patent No. 6,319,322. Hasegawa et al. does not explicitly disclose that the port section

includes a temperature control mechanism comprising at least one of a heater and a cooler; or that the process chamber includes a temperature control mechanism.

However, such devices are well known in the art. For example, Ueda et al. discloses a substrate processing apparatus comprising an aligner process chamber that includes a temperature control mechanism (e.g., col. 1 lines 50-53); and further comprising a port section that includes a temperature control mechanism that includes at least one of a heater and a cooler (e.g., col. 1 lines 61-64, col. 8 lines 28-37). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the instant application to modify Hasegawa et al. with Ueda et al. since Ueda et al. teaches that a temperature regulating means for regulating the temperature of a substrate held by a port section in accordance with the temperature regulation in an aligner is advantageous so that the substrate can be delivered to the aligner in a state where the temperature of the substrate is regulated closer to the temperature required in the aligner. Accordingly, the temperature of the substrate can be more accurately regulated in the aligner in a shorter time, so that circuit patterns can be accurately transferred, and throughput can be improved by speeding up the processing (e.g., col. 1 line 65 – col. 2 line 8).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2125

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
Art Unit 2125

RAJ
9/27/05

JN Gandhi
Jayprakash N. Gandhi
Primary Examiner 2100
Technology Center 2800